

Brain (Medulloblastoma) treatment outcome gene markers (top 100: 50 + 50)
 upregulated in high risk, downregulated in low risk

Gene Description

L17131_rnal_at High mobility group protein (HMG-I(Y)) gene exons 1-8
 X74801_at T-COMPLEX PROTEIN 1, GAMMA SUBUNIT
 L36069_at High conductance inward rectifier potassium channel alpha subunit mRNA
 Y07604_at Nucleoside-diphosphate kinase
 U34038_at Proteinase-activated receptor-2 mRNA
 X59798_at CCND1 Cyclin D1 (PRAD1; parathyroid adenomatosis 1)
 X87241_at HFat protein
 U66619_at SWI/SNF complex 60 KDa subunit (BAF60c) mRNA
 M64347_at FGFR3 Fibroblast growth factor receptor 3 (achondroplasia, thanatophoric dwarfism)
 L35594_at Autotaxin mRNA
 HG3523-HT4899_s_at Proto-Oncogene C-Myc, Alt. Splice 3, Orf 114
 X05360_at CDC2 Cell division cycle 2, G1 to S and G2 to M
 L26081_at Semaphorin-III (Hsema-I) mRNA
 X64624_s_at HOMEODOMAIN/POU DOMAIN PROTEIN RDC-1
 X13293_at MYBL2 V-myb avian myeloblastosis viral oncogene homolog-like 2
 U15008_at SnRNP core protein Sm D2 mRNA
 X03794_s_at HOXB5 Homeo box B5 (2.1 protein)
 X77533_at Activin type II receptor
 D28473_s_at IARS Isoleucine-tRNA synthetase
 D50914_at KIAA0124 gene, partial cds
 U63743_at Mitotic centromere-associated kinesin mRNA
 U86782_at 26S proteasome-associated pad1 homolog (POH1) mRNA
 X54938_at ITPKA Inositol 1,4,5-trisphosphate 3-kinase A
 L12711_s_at TKT Transketolase (Wernicke-Korsakoff syndrome)
 L33842_rnal_at (clone FFE-7) type II inosine monophosphate dehydrogenase (IMPDH2) gene, exons 1-13
 M14328_s_at ENO1 Enolase 1, (alpha)
 M36072_at RPL7A Ribosomal protein L7a
 X69150_at Ribosomal protein S18
 U28749_s_at High-mobility group phosphoprotein isoform I-C (HMGIC) mRNA
 U12595_at Tumor necrosis factor type 1 receptor associated protein (TRAP1) mRNA, partial cds
 X51757_at HSPA6 Heat shock 70kD protein 6 (HSP70B')
 U09178_s_at Dihydropyrimidine dehydrogenase mRNA
 U05572_s_at MANB Mannosidase alpha-B (lysosomal)
 HG1800-HT1823_at Ribosomal Protein S20
 U23752_at SOX11 SRY (sex-determining region Y)-box 11
 Z26317_at DSG2 Desmoglein 2
 U62531_at SLC4A2 Solute carrier family 4, anion exchanger, member 2 (erythrocyte membrane protein band 3-like 1)
 Z31560_s_at SOX2 SRY (sex determining region Y)-box 2
 U72509_s_at Alternatively spliced B8 (B7) mRNA, partial sequence
 U84573_at Lysyl hydroxylase isoform 2 (PLOD2) mRNA
 M12625_at Lecithin-cholesterol acyltransferase mRNA, with 5' and 3' flanking DNA sequences
 S78187_at M-PHASE INDUCER PHOSPHATASE 2
 X05299_at CENPB Centromere protein B (80kD)
 L27584_s_at CAB3b mRNA for calcium channel beta3 subunit
 HG613-HT613_at Ribosomal Protein S12
 L00058_at MYC V-myc avian myelocytomatosis viral oncogene homolog
 M13934_cds2_at RPS14 gene (ribosomal protein S14) extracted from Human ribosomal protein S14 gene
 U14972_at Ribosomal protein S10 mRNA
 L32866_at Effector cell protease receptor-1 (EPR-1) gene, partial cds
 M38591_at S100A10 S100 calcium-binding protein A10 (annexin II ligand, calpactin I, light polypeptide (p11))

Figure 1A

201610-50599001

Figure 2A

High in Medulloblastoma (MD) Low in Glioblastoma (Glio)

	Gene	Description
1	M14483_rna1_s_at	PTMA gene extracted from Human prothymosin alpha mRNA
2	D13413_rna1_s_at	Tumor-associated 120 kDa nuclear protein p120, partial cds(carboxyl terminus)
3	U14970_at	RPS5 Ribosomal protein S5
4	L06505_at	RPL12 Ribosomal protein L12
5	L11566_at	RPL18 Ribosomal protein L18
6	Z49148_s_at	Enhancer of rudimentary homolog mRNA
7	U12404_at	HSPB1 Heat shock 27kD protein 1
8	X69150_at	Ribosomal protein S18
9	Z25749_rna1_at	Ribosomal protein S7
10	X67247_rna1_at	RpS8 gene for ribosomal protein S8
11	U58682_at	RPS28 Ribosomal protein S28
12	HG3214-HT3391_at	Metallopanstimulin 1
13	X62691_at	40S RIBOSOMAL PROTEIN S15A
14	M84711_at	RPS3A Ribosomal protein S3A
15	U38810_at	Mab-21 cell fate-determining protein homolog (CAGR1) mRNA
16	M31520_at	Ribosomal protein S24
17	AB002533_at	RPLP2 Hemoglobin, beta
18	X69391_at	RPL6 Ribosomal protein L6
19	M77232_rna1_at	Ribosomal protein S6 gene and flanking regions
20	U25034_s_at	Neuronatin alpha mRNA
21	D87735_at	CAG-isl 7 {trinucleotide repeat-containing sequence} [human, pancreas, mRNA Partial, 701 nt]
22	X52966_at	RPL35A Ribosomal protein L35a
23	U15008_at	SnRNP core protein Sm D2 mRNA
24	HG1800-HT1823_at	Ribosomal Protein S20
25	U47634_at	TUBB Beta-tubulin
26	Y10807_s_at	Suppressor for yeast mutant
27	U14971_at	RPS9 Ribosomal protein S9
28	X70683_at	SOX4 SRY (sex determining region Y)-box 4
29	X04434_at	IGF1R Insulin-like growth factor 1 receptor
30	X55954_at	RPL17 Ribosomal protein L17
31	X64707_at	60S RIBOSOMAL PROTEIN L13
32	M18000_at	40S RIBOSOMAL PROTEIN S17
33	D76435_at	Zic protein

downregulated in high risk, upregulated in low risk

Gene Description

L13923_at FBN1 Fibrillin 1 (Marfan syndrome)
 L33799_at PCOLCE Procollagen C-endopeptidase enhancer
 S76475_at NTRK3 Neurotrophic tyrosine kinase, receptor, type 3 (TrkC)
 D28124_at Unknown product
 D29956_at PROBABLE UBIQUITIN CARBOXYL-TERMINAL HYDROLASE
 HG2994-HT4850_s_at Elastin, Alt. Splice 2
 U50136_rnal_at Leukotriene C4 synthase (LTC4S) gene
 U63455_at SUR Sulfonylurea receptor (hyperinsulinemia)
 U28963_at Gps2 (GPS2) mRNA
 M55593_at MMP2 Matrix metalloproteinase 2 (gelatinase A, 72kD gelatinase, 72kD type IV collagenase)
 M73547_at POLYPOSIS LOCUS PROTEIN 1
 X69398_at CD47 CD47 antigen (Rh-related antigen, integrin-associated signal transducer)
 AFFX-BioB-M_st AFFX-BioB-M_st (endogenous control)
 J02611_at APOD Apolipoprotein D
 S66541_s_at B-50=neural phosphoprotein [human, Genomic, 778 nt, segment 3 of 3]
 HG2525-HT2621_at Helix-Loop-Helix Protein Delta Max, Alt. Splice 1
 X15880_at COL6A1 Collagen, type VI, alpha 1
 S71824_at NEURAL CELL ADHESION MOLECULE, PHOSPHATIDYLINOSITOL-LINKED ISOFORM PRECURSOR
 X68994_at CREB gene, exon Y
 X52022_at RNA for type VI collagen alpha3 chain
 HG4011-HT4804_s_at Dystrophin-Associated Glycoprotein, 50 Kda, Alt. Splice 2
 X15882_at COL6A2 Collagen, type VI, alpha 2
 U70867_at Prostaglandin transporter hPGT mRNA
 D14686_at AMT Glycine cleavage system protein T (aminomethyltransferase)
 D31815_at SMP-30 (senescence marker protein-30)
 U78180_at Sodium channel 2 (hBNAc2) mRNA, alternatively spliced
 U66661_at GABA-A receptor epsilon subunit mRNA
 M64099_at GAMMA-GLUTAMYLTRANSPEPTIDASE 5 PRECURSOR
 U40271_s_at PTK7 Protein-tyrosine kinase 7
 Y09616_at Carboxylesterase (hCE-2) mRNA
 HG2686-HT2782_at Ryanodine Receptor 3
 U28811_at Cysteine-rich fibroblast growth factor receptor (CFR-1) mRNA
 HG4318-HT4588_s_at Lim-Domain Transcription Factor Lim-1
 Z38133_s_at Myosin
 L06419_at PLOD Lysyl hydroxylase
 X76732_at DNA-BINDING PROTEIN NEFA PRECURSOR
 D80004_at KIAA0182 gene, partial cds
 HG4390-HT4660_at Ribosomal Protein L18a Homolog
 U05291_at FMOD Fibromodulin
 K02054_at GRP Gastrin-releasing peptide
 X93510_at 37 kDa LIM domain protein
 AFFX-BioDn-5_st AFFX-BioDn-5_st (endogenous control)
 Y10615_at CYRN2 gene
 M96739_at NSCL-1 mRNA sequence
 U95740_rna2_at 362G6.2 gene extracted from Human chromosome 16p13.1 BAC clone CIT987SK-362G6 complete sequence
 U43747_s_at FRDA Friedreich ataxia
 U38268_at Cytochrome b pseudogene, partial cds
 D86479_at Non-lens beta gamma-crystallin like protein (AIM1) mRNA, partial cds
 D82326_at Amino acid transport-related protein mRNA
 X78565_at HXB Hexabrachion (tenascin C, cytotactin)

Figure 1B

Figure 2B

34	Z28407_at	RPL8 Ribosomal protein L8
35	U63842_at	Neurogenic basic-helix-loop-helix protein (neuroD3) gene
36	Z22548_at	Thiol-specific antioxidant protein mRNA
37	U50743_at	Na,K-ATPase gamma subunit mRNA
38	U30521_at	FRAP FK506 binding protein 12-rapamycin associated protein
39	X60489_at	Elongation factor-1-beta
40	M94250_at	MDK Midkine (neurite growth-promoting factor 2)
41	X52599_at	NGFB Nerve growth factor beta
42	M81757_at	40S RIBOSOMAL PROTEIN S19
43	L19527_at	RPL27 Ribosomal protein L27
44	U14968_at	Ribosomal protein L27a mRNA
45	U65011_at	Preferentially expressed antigen of melanoma (PRAME) mRNA
46	M68864_at	ORF mRNA
47	HG311-HT311_at	Ribosomal Protein L30
48	X55715_at	RPS3 Ribosomal protein S3
49	U14972_at	Ribosomal protein S10 mRNA
50	M13934_cds2_at	RPS14 gene (ribosomal protein S14) extracted from Human ribosomal protein S14 gene

Low in Medulloblastoma (MD) High in Glioblastoma (Glio)

Gene	Description
1 X75861_at	TEGT Testis enhanced gene transcript
2 X86693_at	High endothelial venule
3 M27891_at	CST3 Cystatin C (amyloid angiopathy and cerebral hemorrhage)
4 X86809_at	Major astrocytic phosphoprotein PEA-15
5 U60061_at	RPS26 Ribosomal protein S26
6 M93426_at	PTPRZ Protein tyrosine phosphatase, receptor-type, zeta polypeptide
7 D49824_s_at	HLA-B null allele mRNA
8 D13631_s_at	KIAA0006 gene
9 V00594_at	Metallothionein isoform 2
10 L48513_at	Paraoxonase (PON2) mRNA
11 L20298_at	Transcription factor (CBFB) mRNA, 3' end
12 Z24725_at	Mitogen inducible gene mig-2

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Figure 3A

13	L13977_at	LYSOSOMAL PRO-X CARBOXYPEPTIDASE PRECURSOR
14	M32886_at	SRI Sorcin
15	Z31560_s_at	SOX2 SRY (sex determining region Y)-box 2
16	M63838_s_at	Interferon-gamma induced protein (IFI 16) gene
17	U50928_at	PKD2 Autosomal dominant polycystic kidney disease type II
18	U48705_mna1_s_at	Receptor tyrosine kinase DDR gene
19	U32331_at	RIG mRNA, complete sequence
20	S72043_mna1_at	GIF=growth inhibitory factor [human, brain, Genomic, 2015 nt]
21	U45955_at	Neuronal membrane glycoprotein M6b mRNA, partial cds
22	X04828_at	GNAI2 Guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 2
23	J00105_s_at	BETA-2-MICROGLOBULIN PRECURSOR
24	S82297_at	BETA-2-MICROGLOBULIN PRECURSOR
25	HG658-HT658_f_at	Major Histocompatibility Complex, Class I, C (Gb:X58536)
26	X56841_at	HLA-E MHC class I antigen HLA-E
27	U03090_at	Ca2+-dependent phospholipase A2 mRNA
28	L40397_at	(clone S311125) mRNA, 3' end of cds
29	D32050_at	AARS Alanyl-tRNA synthetase
30	D25304_at	KIAA0006 gene, partial cds
31	L25798_at	HMGCS1 3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1 (soluble)
32	M61199_at	CLEAVAGE SIGNAL-1 PROTEIN
33	HG2917-HT3061_f_at	Major Histocompatibility Complex, Class I, E (Gb:M21533)
34	U44772_at	Palmitoyl protein thioesterase mRNA
35	D63486_at	KIAA0152 gene
36	S72008_at	CDC10 Cell division cycle 10 (homologous to CDC10 of <i>S. cerevisiae</i>)
37	L11373_at	Protocadherin 43 mRNA for abbreviated PC43
38	X03663_at	CSF1R Colony stimulating factor 1 receptor, formerly McDonough feline sarcoma viral (v-fms) oncogene homolog
39	U00952_at	Clone A9A2BRB7 (CAC)n/(GTG)n repeat-containing mRNA
40	X82200_at	Staf50 mRNA
41	X98833_mna1_at	Zinc finger protein, Hsa1
42	M11313_s_at	A2M Alpha-2-macroglobulin
43	D49817_at	Fructose 6-phosphate,2-kinase/fructose 2,6-bisphosphatase
44	J04182_at	LAMP1 Lysosome-associated membrane protein 1
45	M12529_at	APOE Apolipoprotein E
46	X64177_f_at	Metallothionein
47	U45976_at	Clathrin assembly protein lymphoid myeloid leukemia (CALM) mRNA

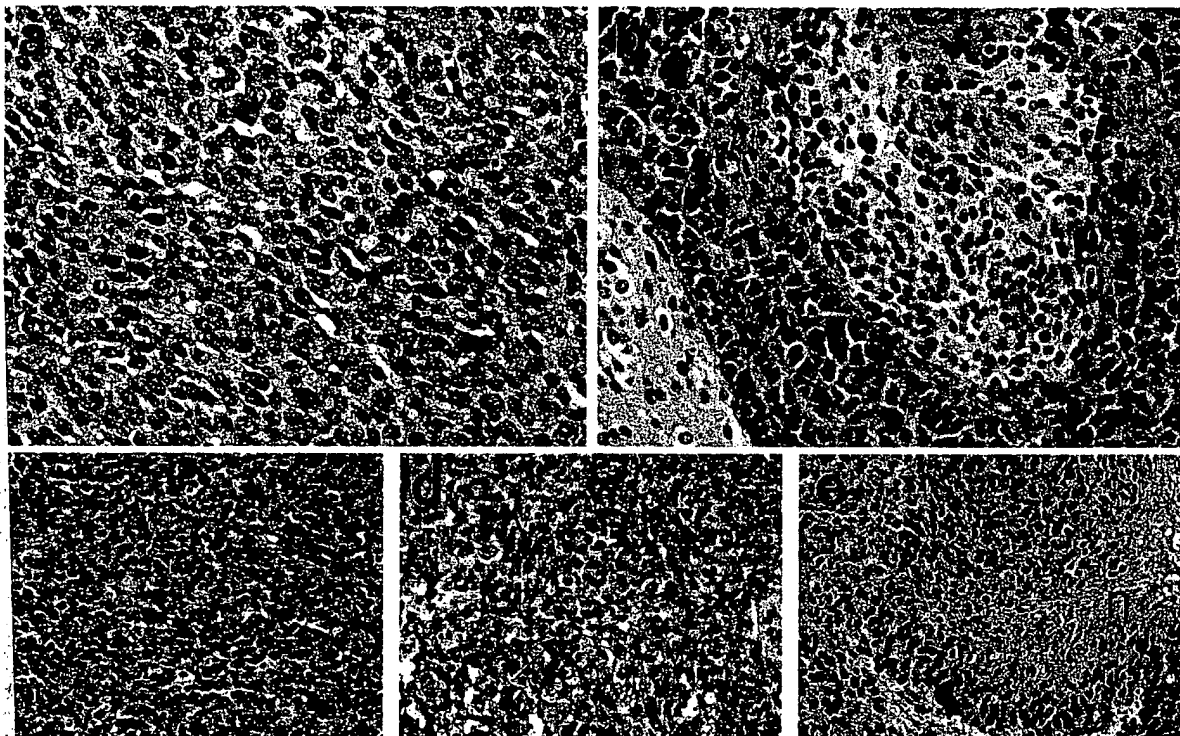
2025.2023-001

48 D26443 at
49 HG2915-HT3059_f_at
50 K02765_at
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EXCITATORY AMINO ACID TRANSPORTER 1
Major Histocompatibility Complex, Class I, E (Gb:M20022)
COMPLEMENT C3 PRECURSOR
2825.2023-000

Figure 3B

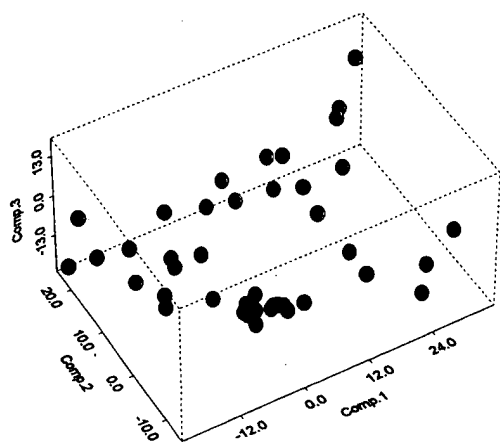
Figure 4A

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Figure 4B



- MD
- MGlio
- AT/RT CNS
- ⊙ AT/RT Renal/Extrarenal
- ⊗ Ncer
- ⊕ PNET

Figure 4C

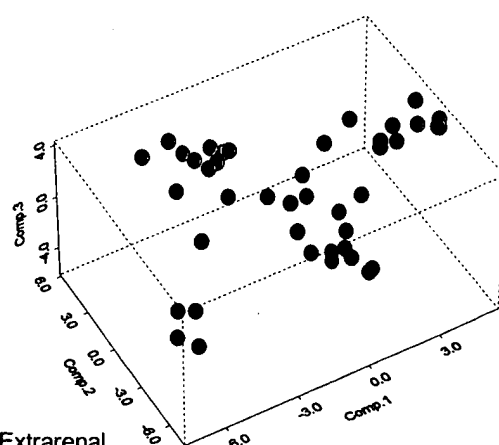


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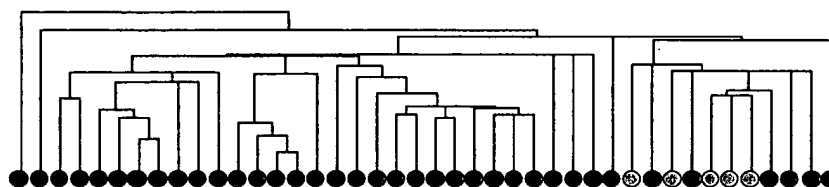


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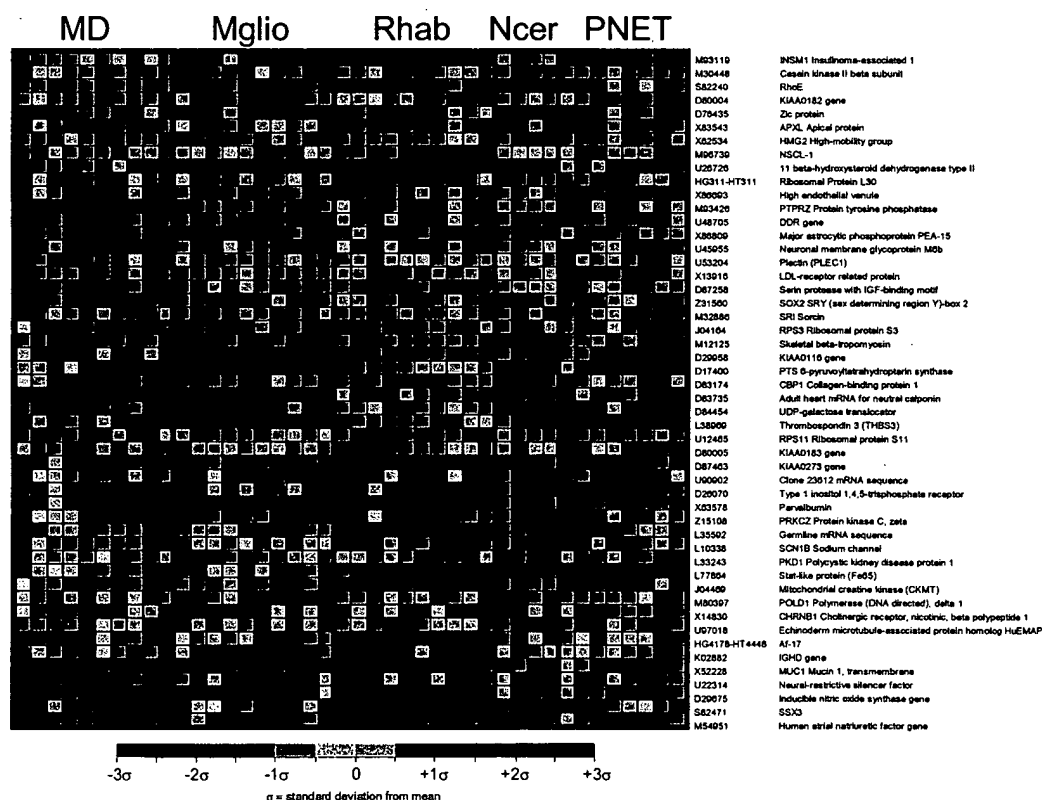
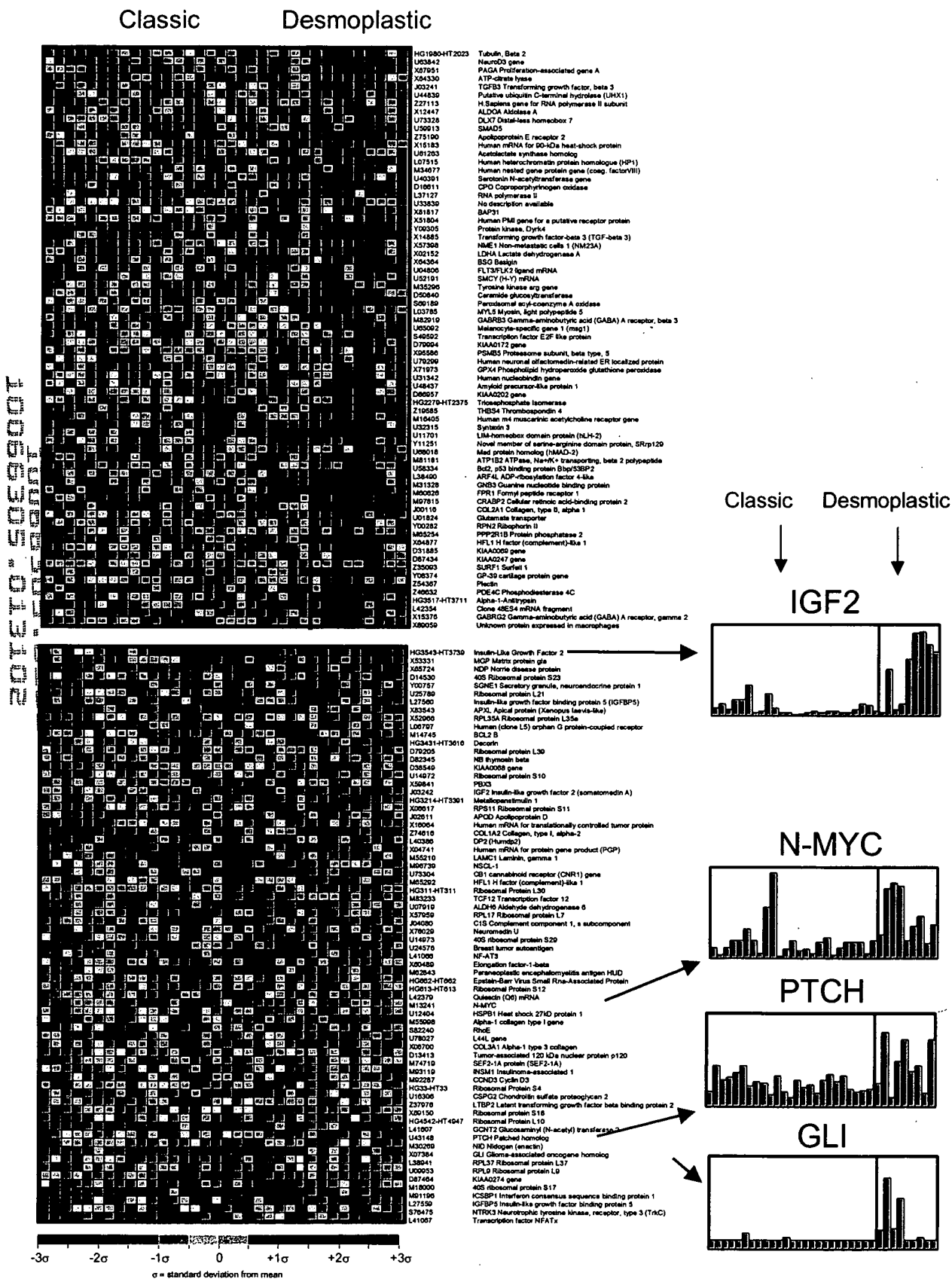


Figure 5A

Authors: Todd R. Golub *et al.*

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Figure 6A

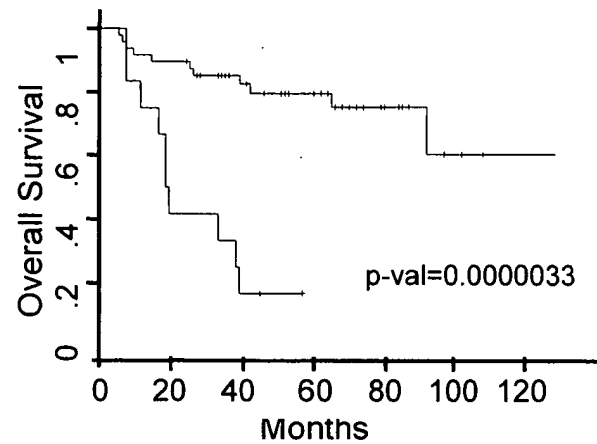


Figure 6B

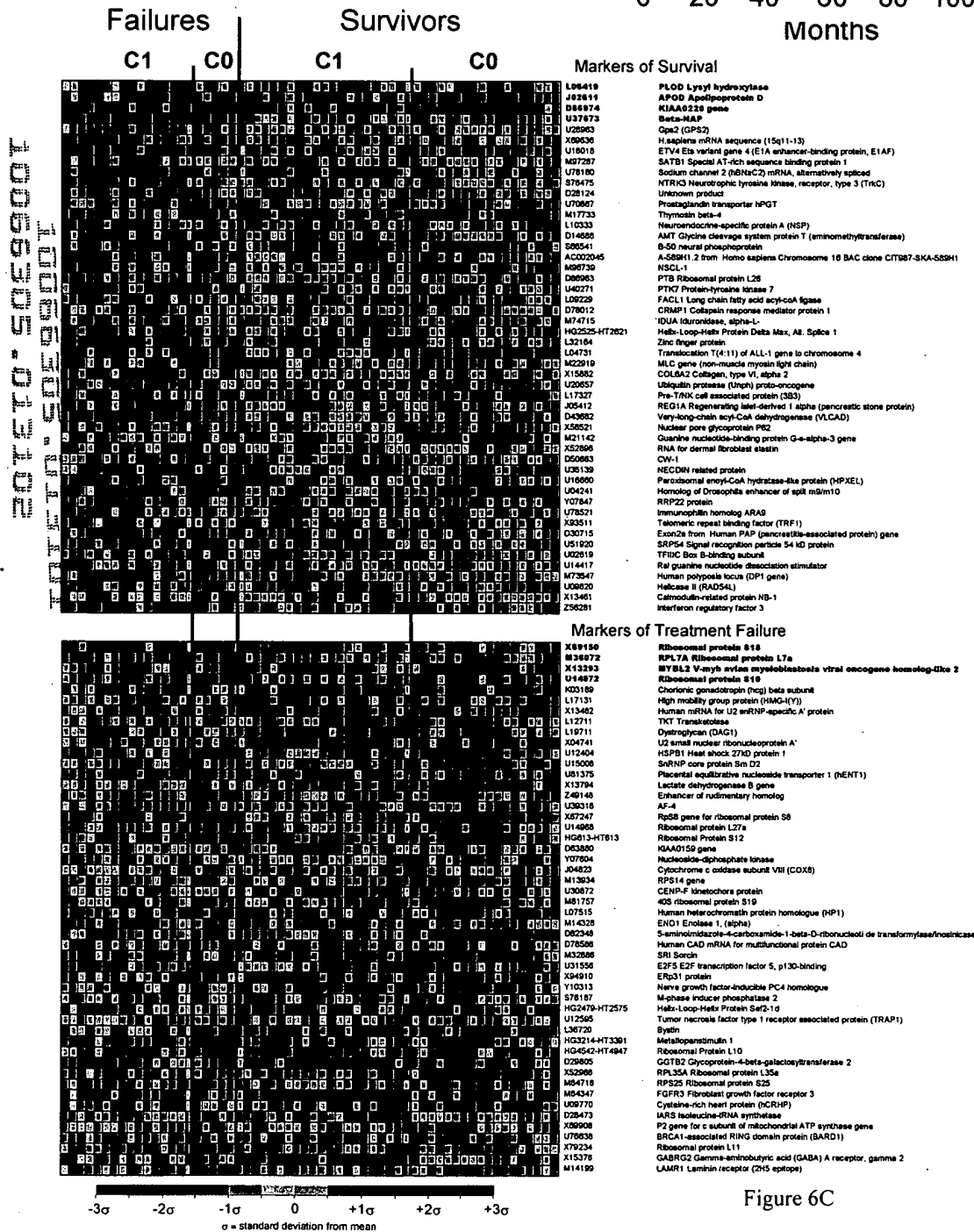


Figure 6C